

WHAT IS CLAIMED IS:

1. A method for protecting equipment in a network element, comprising:

receiving a protection request for a first equipment
5 item;

receiving the protection request for a second equipment item;

determining a higher priority item between the first and second equipment items; and

10 performing the protection request for the higher priority item.

2. The method of Claim 1, wherein the equipment items comprise line interface cards.

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3. The method of Claim 2, wherein line interface cards each comprise a plurality of single user connections.

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4. The method of Claim 2, wherein the line connection interface cards each comprise only single user connections.

5. The method of Claim 2, wherein the line
25 interface cards each comprise the plurality of DS-1 connections.

6. The method of Claim 2, further comprising determining the higher priority item based on an
30 identifier of the line interface cards.

7. The method of Claim 1, further comprising:
performing the protection request for the first
equipment item in an absence of the protection request
for the second equipment item;
5 determining the higher priority item in response to
receiving the protection requests for the second
equipment item; and
deactivating the protection request for the first
equipment item in response to determining the second
10 equipment item is the higher priority item.

8. The method of Claim 1, wherein the protection
request comprises an activation request, further
comprising determining the higher priority item in
15 response to the activation request for the first and
second equipment items.

9. The method of Claim 1, wherein the request is a
first request, further comprising:
20 receiving a second request, the second request
comprising a deactivation request for a disparate
equipment item; and
determining the higher priority item for the first
request in response to the deactivation request.

25 10. The method of Claim 1, further comprising
receiving the protection request for at least one of the
equipment items from a network operator.

30 11. The method of Claim 1, further comprising
receiving the protection request for at least one of the
equipment items automatically in response to failure of
the equipment item.

5 receiving a second protection request for a third
equipment item;

determining the higher priority item between the
10 first and second equipment items if the first protection
request is the higher priority request; and

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13. A method for providing 1:N protection switching for equipment in a network element, comprising:

receiving a protection request for an equipment item;

5 evaluating a priority of the request and a priority of the equipment item relative to all other outstanding protection requests for equipment items in a protection group with the equipment item; and

performing a highest priority protection request for
10 a highest priority equipment item.

14. The method of Claim 13, wherein the equipment items comprise line interface cards.

15 15. The method of Claim 14, wherein the line interface cards each comprise a plurality of single user connections.

16. The method of Claim 15, wherein the single user
20 connections comprise DS-1 connections.

17. The method of Claim 13, wherein the priority of the equipment items are evaluated based on an identifier of the equipment items.

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18. A system for providing protection switching for equipment in a network element, comprising:

an encoded medium;

logic encoded on the medium, the logic operable to
5 receive a protection request for an equipment item,
evaluate a priority of the request and a priority of the
equipment item relative to all other outstanding
protection requests for equipment items in a protection
group with the equipment item and perform a highest
10 priority protection request for a highest priority
equipment item.

19. The system of Claim 18, wherein the equipment
items in the protection group comprise line interface
15 cards.

20. The system of Claim 19, wherein the line
interface cards each comprise a plurality of single user
connections.

20 21. The system of Claim 20, wherein the single user
connections comprise DS-1 connections.

22. The system of Claim 18, wherein the priority of
25 the equipment items are evaluated based on identifiers of
the equipment items.

means for receiving a protection request for an equipment item;

means for performing a highest priority protection
10 request for a highest priority equipment item.

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a protection group including a plurality of working
line interface cards and a protection line interface
5 card;

a finite state machine operable to activate a
10 highest priority protection request for a highest
priority equipment item between all outstanding
protection requests for equipment items in the protection
group based on the states of the working and protection
line interface cards.